# 

# (11) **EP 2 725 306 A3**

(12)

#### **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: 21.06.2017 Bulletin 2017/25

(51) Int Cl.: **F24F 1/00** (2011.01)

(43) Date of publication A2: 30.04.2014 Bulletin 2014/18

(21) Application number: 13185052.1

(22) Date of filing: 18.09.2013

(84) Designated Contracting States:

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR Designated Extension States:

BA ME

**2**, ( ...**2** 

(30) Priority: 26.10.2012 KR 20120119416

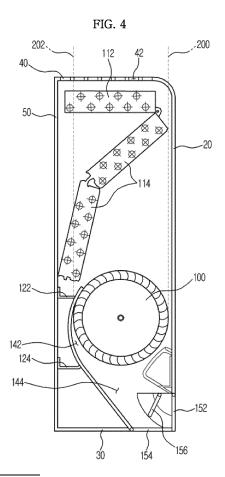
(71) Applicant: Samsung Electronics Co., Ltd Gyeonggi-do 443-742 (KR)

(72) Inventors:

- Kil, Yong Hyun Gyeonggi-do (KR)
- Kim, Jung Ho Gyeonggi-do (KR)
- Yoon, Joon Ho Gyeonggi-do (KR)
- Choi, Sun Muk Gyeonggi-Do (KR)
- (74) Representative: Appleyard Lees IP LLP 15 Clare Road Halifax HX1 2HY (GB)

## (54) Air conditioner

(57)Disclosed herein is an air conditioner with an improved slim structure. The air conditioner includes a main body having an air suction port and an air discharge port, plural heat exchangers to heat-exchange with sucked air, and a cross-flow fan disposed between the heat exchangers and the air discharge port and configured to blow the air heat-exchanged by the heat exchangers to the air discharge port. The heat exchangers are disposed to the rear of a first imaginary surface which extends perpendicularly from an edge of the cross-flow fan at a front point, and a center in a forward and backward direction of each of the plural heat exchangers is disposed between the first imaginary surface and a second imaginary surface which extends perpendicularly from an edge of the cross-flow fan at a rear point. Performance of the heat exchangers may be maximized, and space-saving efficiency may be enhanced.



EP 2 725 306 A3



# **PARTIAL EUROPEAN SEARCH REPORT**

**Application Number** 

under Rule 62a and/or 63 of the European Patent Convention. This report shall be considered, for the purposes of subsequent proceedings, as the European search report

EP 13 18 5052

	DOCUMENTS CONSIDER				
Category	Citation of document with indica of relevant passages		n, where appropriate, Relevant to claim		
X	WO 02/04871 A2 (CONVE OLE [DK]) 17 January : * page 13, line 33 - figures 1,10 *	2002 (2002-01-17)	1-8	INV. F24F1/00	
Υ	WO 2006/035927 A1 (DA TAKAHASHI TAKAYUKI [J [JP]; YASU) 6 April 2 * figure 2 *	P]; ZHENG ZHIMING	1,3-8		
Υ	US 5 807 170 A (LEE G 15 September 1998 (19 * the whole document	1,3-8			
А	WO 03/033965 A2 (LG E KIM JEONG-HUN [KR]; H EOM) 24 April 2003 (20 * figure 2B *	WANG SUNG-MAN [KR];	1		
	-				
				TECHNICAL FIELDS SEARCHED (IPC)	
				F24F	
				1241	
INCO	MPLETE SEARCH				
	ch Division considers that the present appli y with the EPC so that only a partial search		s/do		
Claims sa	arched completely :				
Oldinio de	aroned completely.				
Claims se	arched incompletely :				
Claims no	t searched :				
	or the limitation of the search:				
266	sheet C				
	Place of search	Date of completion of the search		Examiner	
	Munich	11 May 2017	Lie	enhard, Dominique	
X : part Y : part docu	ATEGORY OF CITED DOCUMENTS cularly relevant if taken alone cularly relevant if combined with another ment of the same category	T : theory or princip E : earlier patent do after the filing da D : document cited f L : document cited f	cument, but publiste in the application for other reasons	shed on, or	
O:non	nological background -written disclosure	& : member of the s	ame patent family	, corresponding	
	mediate document	document	,	. , <del>,</del>	



5

# INCOMPLETE SEARCH SHEET C

Application Number

EP 13 18 5052

	Claim(s) completely searchable: 1-8					
10	Claim(s) not searched: 9-15					
	Reason for the limitation of the search:					
15	The search has been restricted to the subject-matter indicated by the applicant in his letter of 22/03/2017 filed in reply to the invitation pursuant to Rule 62a(1) and/or Rule 63(1) EPC. Hence, the search report and the written opinion have been drawn up on the basis of claims 1 to 8.					
20						
25						
30						
35						
40						
45						
50						
55						

## EP 2 725 306 A3

#### ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 13 18 5052

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

11-05-2017

	Patent document cited in search report		Publication date		Patent family member(s)	Publication date
	WO 0204871	A2	17-01-2002	AU BG BR CA CN CZ EP HU JP KR MX PL RO WO	7236301 A 107514 A 0112253 A 2414934 A1 1440492 A 1641281 A 20030382 A3 1301748 A2 1746354 A2 0301406 A2 3795861 B2 2004522120 A 20030014397 A PA02012935 A 358842 A1 121488 B1 2003159803 A1 0204871 A2	21-01-2002 28-11-2003 24-06-2003 17-01-2002 03-09-2003 20-07-2005 12-11-2003 16-04-2003 24-01-2007 28-08-2003 12-07-2006 22-07-2004 17-02-2003 30-07-2004 23-08-2004 29-06-2007 28-08-2003 17-01-2002
	WO 2006035927	A1	06-04-2006	JP WO	2006105416 A 2006035927 A1	 20-04-2006 06-04-2006
	US 5807170	Α	15-09-1998	CN JP KR US	1158402 A H09196442 A 187231 B1 5807170 A	03-09-1997 31-07-1997 01-05-1999 15-09-1998
	WO 03033965	A2	24-04-2003	AU CN GB US WO	2001296072 A1 1537213 A 2386182 A 2004035140 A1 03033965 A2	 28-04-2003 13-10-2004 10-09-2003 26-02-2004 24-04-2003
FORM P0459						

© Lorentz Control Cont